

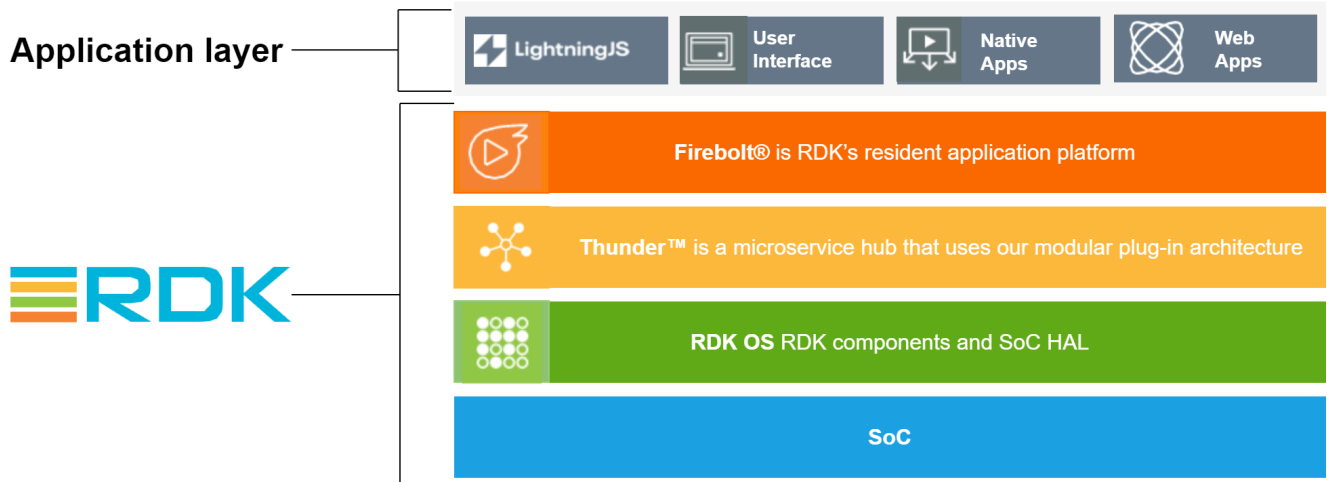
# RDK Video Documentation

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## What is RDK Video(RDK-V)?

RDK-V is a fully modular, portable, and customizable open source software solution for video devices . It accelerates the deployment of next-gen video products and services, simplifying customization and user experience. RDK-V is already running in millions of devices across the world.

The latest version of the RDK Video software stack is designed to simplify app development and integration on any set-top device. It provides companies with complete control over their apps, device data, and customer experience. RDK Video is designed for use with Lightning™, a JavaScript-based app development language, but also supports HTML5 web apps and native streaming video apps, all integrated through Firebolt®.

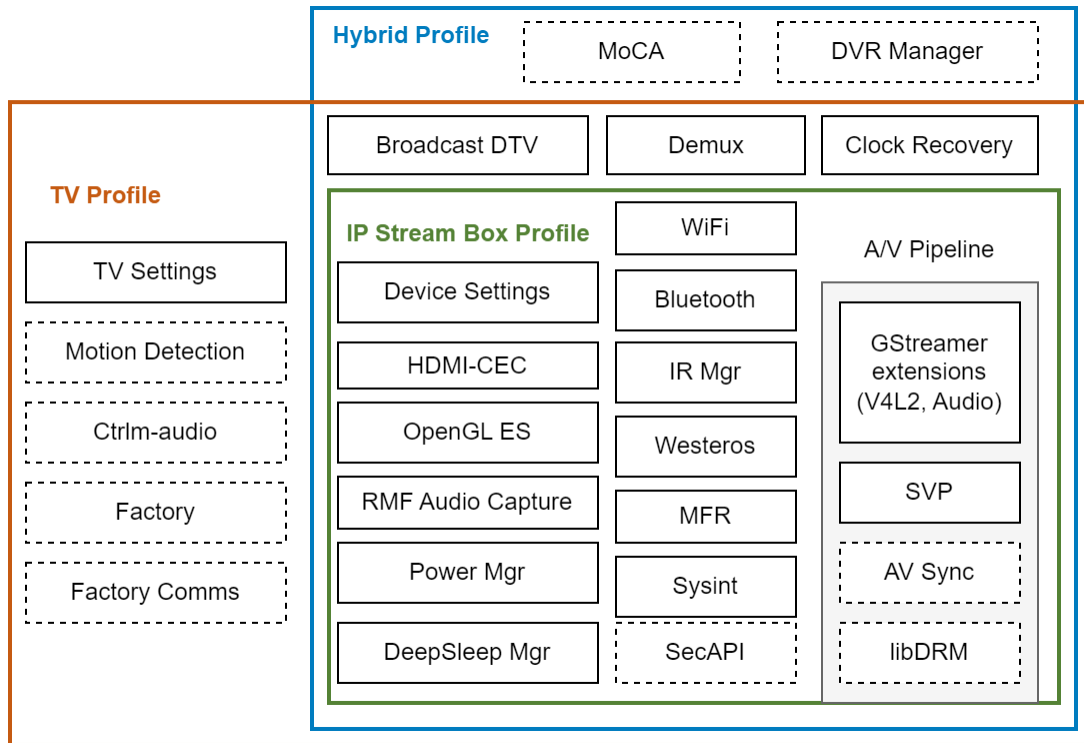


RDK Video offers users an adaptable interface through its comprehensive Reference Lightning™ UI. Additionally, users can develop and customize their own UI based on their specific requirements. The platform is enhanced with Firebolt®, which expedites the rigorous certification process mandated by the leading global streaming app providers, ensuring seamless compatibility with their latest releases and eliminating the need for future updates. Furthermore, RDK Video integrates Thunder, an event-driven interface framework that allows the flexibility to enable or disable any feature as a plug-in. Thunder microservices, also known as RDKServices, are implemented as plug-ins and configured within the WPE subsystems. RDK Video supports global streaming apps by featuring pre-integrated top global streaming applications. This provision gives operators a straightforward pathway to deliver the most popular content to their subscribers.

## RDK Device profiles

From the fundamental RDK IP STB to the more sophisticated RDK TV, RDK offers a variety of device profiles: IP STB, Hybrid STB, and RDK TV.

For a basic grouping of RDK Video features across device profiles, please refer below diagram:



## RDK Video for IP (IP STB)

RDK Video for IP offers a unified approach to manage video playback functions with IP client devices as interfaces for receiving video content. The system focuses on IP-based data streaming without tuner capabilities. Key features include robust DRM integration with platforms like Adobe® Access, PlayReady®, and Widevine. It supports various content delivery modes such as VOD, SDV, iPPV, and Wi-Fi video streaming. The system includes an emergency alert system, cast screening, adaptive bit rate functionality, MPEG-DASH support, and HDR 10-bit compatibility for gateway set-top boxes. Video output resolutions extend up to Ultra HD/4K with HDR, and audio formats include Dolby® MS12 for a high-quality viewing experience. Additional features encompass customizable video telemetry, closed captioning, copy protection, and song track identification, emphasizing a comprehensive and user-friendly video streaming platform.

## RDK Video for Hybrid

The Hybrid STB is an IP STB device along with capabilities such as tuning, conditional access, and stream management with which we can manage complex video functions. In addition to its IP features, this profile encompasses QAM and DVB tuning, facilitating versatile channel selection. It supports media streaming to in-home devices, enables home networking, and offers recording functionality for enhanced user convenience. The Hybrid STB further provides customizable telemetry and feature control, ensuring a tailored user experience. With support for progressive download, conditional access for secure content delivery, and integration of premium apps, it caters to diverse entertainment needs. The device also includes diagnostics support, enhancing troubleshooting capabilities, and ensures compatibility with all popular streaming protocols, making it a comprehensive solution for modern video consumption.

## RDK Video for TV

RDK Video for TV, an open-source Smart TV profile, serves as a comprehensive platform for manufacturers and operators to construct RDK-based TV and video solutions. This profile brings all your favorite apps, live channels, and On Demand contents together in one place. Beyond video-specific features (IP STB features), RDK Video for TV incorporates TV-oriented functionalities, including color, picture, and audio adjustment. Additionally, it supports offline display for third-party devices via HDMI and facilitates display device power management and Consumer Electronics Control (CEC). In essence, RDK Video for TV offers a holistic and customizable solution that brings together the best of both video and television features.

## Additional Resources

### Getting Started:

- [Try out RDK](#): To know how to begin with trying out RDK, please follow [Try out RDK](#).

### User Guides:

- [Features](#): A detailed list of features supported by RDK-V is available at [Features](#).
- [Architecture](#): For RDK-V architecture details and structuring of RDK-V Components, follow [Architecture](#).
- [Components](#): For detailed documentation of RDK-V components, follow [Components](#), and for detailed documentation of RDK-V subsystems, follow [Subsystems](#).
- [Builds/Yocto](#): For details on Yocto build systems and RDK Yocto builds, follow [Yocto build systems](#).

**Application Details:**

- [RDK UI](#): For details of available RDK UI options, follow [RDK UI Options](#).

**Device Profiles:**

- [IP STB](#): For an overview of the RDK-V IP STB device profile, follow [IP](#).
- [Hybrid STB](#): For an overview of the RDK-V Hybrid STB device profile, follow [Hybrid](#).
- [RDK-V TV](#): For an overview of the RDK-V TV device profile, follow [TV](#).